

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) An electrically driven power steering apparatus comprising:

a motor;

a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

an input shaft connected to a steering wheel;

a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner;

an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member comprises a material having a Young's modulus of 100 to 900 Mpa.

2. (Previously Presented) An electrically driven power steering apparatus comprising:

a motor;

a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

an input shaft connected to a steering wheel;

a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner;

an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member includes a metal member and an elastic member, the elastic member comprising a material having a Young's modulus of 100 to 900 Mpa, the metal member has a hole extending in the axial direction, and the elastic member is attached to both ends of the metal member in an axial direction and is connected through the hole in the metal member.

3. (Previously Presented) An electrically driven power steering apparatus comprising:

a motor;

a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

an input shaft connected to a steering wheel;

a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner;

an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member includes a metal member and an elastic member, the elastic member comprising a material having a Young's modulus of 100 to 900 Mpa, and the elastic member is disposed at least at one of both end faces of the metal member in an axial direction, and between the metal member and the moving member.

4. (Previously Presented) A power steering apparatus according to claim 1, wherein the absorbing member is formed from a polyurethane material.

5. (Previously Presented) A power steering apparatus according to claim 2, wherein the elastic member is formed from a polyurethane material.

6. (Previously Presented) A power steering apparatus according to claim 3, wherein the elastic member is formed from a polyurethane material.

7. (New) An electrically driven power steering apparatus comprising:

- a motor;

- a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

- an input shaft connected to a steering wheel;

- a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner; and

- an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member comprises a material selected to satisfy the following relationships:

$$100 \leq \sigma/\varepsilon \leq 900 \text{ (Mpa)}$$

$$0.2 \leq \varepsilon \leq 0.3,$$

where  $\sigma$  is compressive stress, and  $\varepsilon$  is strain.

8. (New) A power steering apparatus according to claim 7, wherein the material satisfies the following relationships:

$$200 \leq \sigma/\varepsilon \leq 666 \text{ (Mpa)}$$

$$\sigma/\varepsilon = F/(S \cdot \varepsilon)$$

$$30,000 \leq F \leq 40,000 \text{ (N)}$$

$$3 \times 10^{-4} \leq S \leq 5 \times 10^{-4} \text{ (m}^2\text{)}$$

where  $F$  is compressive load (N), and  $S$  is compressed area (m<sup>2</sup>).

9. (New) A power steering apparatus according to claim 7, wherein the material of the absorbing member is a polyurethane material.

10. (New) A power steering apparatus according to claim 8, wherein the material of the absorbing member is a polyurethane material.

11. (New) An electrically driven power steering apparatus comprising:

a motor;

a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

an input shaft connected to a steering wheel;

a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner; and

an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member includes a metal member and an elastic member, the metal member has a hole extending in the axial direction, and the elastic member is attached to both ends of the metal member in an axial direction and is connected through the hole in the metal member, the elastic member comprising a material selected to satisfy the following relationships:

$$100 \leq \sigma/\varepsilon \leq 900 \text{ (Mpa)}$$

$$0.2 \leq \varepsilon \leq 0.3,$$

where  $\sigma$  is compressive stress, and  $\varepsilon$  is strain.

12. (New) A power steering apparatus according to claim 11, wherein the material satisfies the following relationships:

$$200 \leq \sigma/\varepsilon \leq 666 \text{ (Mpa)}$$

$$\sigma/\varepsilon = F/(S \cdot \varepsilon)$$

$$30,000 \leq F \leq 40,000 \text{ (N)}$$

$$3 \times 10^{-4} \leq S \leq 5 \times 10^{-4} \text{ (m}^2\text{)}$$

where  $F$  is compressive load (N), and  $S$  is compressed area ( $\text{m}^2$ ).

13. (New) A power steering apparatus according to claim 11, wherein the material of the elastic member is formed from a polyurethane material.

14. (New) A power steering apparatus according to claim 12, wherein the material of the elastic member is formed from a polyurethane material.

15. (New) An electrically driven power steering apparatus comprising:

a motor;

a moving shaft to which an assistive steering force is inputted from the motor, and which is reciprocally movable within a range restricted by a housing in order to steer wheels;

an input shaft connected to a steering wheel;

a power transmission mechanism which connects the input shaft with the moving shaft in a power transmissible manner; and

an absorbing member which is attached to one of the moving shaft and the housing, and is brought into contact with an abutment portion disposed on the other of the moving shaft and the housing to absorb an impact at an end of the reciprocal movement of the moving shaft;

wherein the absorbing member includes a metal member and an elastic member, and the elastic member is disposed at least at one of both end faces of the metal member in an axial direction, and between the metal member and the moving member, the elastic member comprising a material selected to satisfy the following relationships:

$$100 \leq \sigma/\varepsilon \leq 900 \text{ (Mpa)}$$

$$0.2 \leq \varepsilon \leq 0.3,$$

where  $\sigma$  is compressive stress, and  $\varepsilon$  is strain.



16. (New) A power steering apparatus according to claim 15, wherein the material satisfies the following relationships:

$$200 \leq \sigma/\varepsilon \leq 666 \text{ (Mpa)}$$

$$\sigma/\varepsilon = F/(S \cdot \varepsilon)$$

$$30,000 \leq F \leq 40,000 \text{ (N)}$$

$$3 \times 10^{-4} \leq S \leq 5 \times 10^{-4} \text{ (m}^2\text{)}$$

where F is compressive load (N), and S is compressed area (m<sup>2</sup>).

17. (New) A power steering apparatus according to claim 15, wherein the material of elastic member is a polyurethane material.

18. (New) A power steering apparatus according to claim 16, wherein the material of elastic member is a polyurethane material.